BRUHAT BENGALURU MAHANAGARA PALIKE

Office of the Executive Engineer, Storm Water Drain Division, Dasarahalli.

Name of Work :- Construction of RCC culverts & remodeling of U Shape drain for secondary SWD S Ramesh road to Urdu school in Dasarahalli Ward No.15

4/8 — **Estd. Cost Rs. 100.00 Lakhs**

Sl. No.	Description	Unit	No.	L	B	D	Qty	Rate in Rs.	Amount in Rs.
1	**Dismantling of existing structures like culverts, bridges, retaining walls and other structure** comprising of masonry, cement concrete, wood work, steel work, including T&P and scaffolding wherever necessary, sorting the dismantled material, disposal of unserviceable material and stacking the serviceable material with all lifts complete as per specifications, iii) Dismantling Stone Masonry. A. Rubble Stone masonry in lme mortar. MORTH Specification No. 202 KSRRB M200- 15.2. -do- B. **Rubble stone masonry** in cement mortar.								
	(PWD SR 2015-16 Pg 137 Item No 18.27)								
		Cum	2	230.00	0.50	1.60	368.00		
						Total	368.00	250.56	92207.00
	Rate Analysis	**Rs./ Cum**							
	Basic Rate	Rs. 232.00							
	AW 8 %	Rs. 18.56							
	Total	**Rs. 250.56**							
2	Excavation of removal of silt mixed with sand, human excreta, garbage in slussy condition from Storm water drain in Bangalore City including disposing off the same as directed including cost of machinery labour, fuel etc., (By Manual Means) ((P-210,I-27.12 of KPWD SR 2015-16)								
	For Removal of Silt in drain	Cum	1	235.00	3.00	0.60	423.00	607.41	256935.00
	Basic Rate		Rs	397.00					
	Add 30% For de-watering		Rs	119.10					
	Add 15% For shoring		Rs	59.55					
	Add 8%		Rs	31.76					
	Total		Rs	**607.41**					
2	**Diversion of water course by providing coffer dams or bunds or islands** as may be necessary for piers and abutments foundations, bailing out or pumping water during excavation and until completion etc... complete beyond 1.50m depth upto & including 3m depth.								
	(PWD SR 15-16 Pg 257 item no 37.41.2)								
	U-Shape Drain	Cum	1	230.00	(0.90+0.5)/2	0.60	96.60		
					Total		96.60	346.68	33490.00
	Rate Analysis	**Rs./ Cum**							
	Basic Rate	Rs. 321.00							
	AW 8 %	Rs. 25.68							
	Total	**Rs. 346.68**							

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Sl. No.	Description	Unit	No.	L	B	D	Qty	Rate in Rs.	Amount in Rs.
3	**Excavation in marshy soil** upto 3m depth for foundation of structures as per drawing and technical specifications, removing the excavated stuf to a lead of 15m, including dewatering, shoring, refilling trenches in 250mm layers, wherever necessary watering and ramming, including cost of all materials, labour complete as per specifications V. **Marshy Soil - B Mechanical means**								
	(PWD SR 15-16 Pg 210& Item no 27.13)								
	U-Shape Drain	Cum	1	80.00	4.60	2.60	956.80		
							956.80		
	Deduct 40 % for Existing Drain section						-382.72		
					Net		**574.08**		
	Considering 30% qty in Marshy soil						**172.22**		
					Total		**172.22**	**113.40**	**19531.00**
	Rate Analysis		**Rs./ Cum**						
	Basic Rate		Rs.	105.00					
	AW 8 %		Rs.	8.40					
	Total		**Rs.**	**113.40**					
4	KSRRB M2100-2.1 Earth work in **excavation for foundation** of structures such as culverts, bridges etc., as per drawing and technical specifications,including setting out, construction of shoring and bracing, removal of stumps and other deleterious matter, dressing of sides and bottom and backfilling with approved material complete as per specifications **in Ordinary soil - B. Machanical Means** (i) Depth upto 3m MORTH Specification No. 304								
	(PWD SR 15-16 Pg 209& Item no 27.4)								
	Considering 70% qty in AKS						**401.86**		
					Total		**401.86**	**51.84**	**20833.00**
	Rate Analysis		**Rs./ Cum**						
	Basic Rate		Rs.	48.00					
	AW 8 %		Rs.	3.84					
	Total		**Rs.**	**51.84**					
5	KSSRB M2100-5.1 Earth work Excavation for foundation of structures as per drawing and technical specifications, including setting out, construction of shoring and bracing, removal of stumps and other deleterious matter, dressing of sides and bottom and backfilling with approved material complete as per specifications as per MORTH specification No.304 . **in Marshy soil upto 3m depth(By manual means)**								
	(PWD SR 15-16 Pg 210 item no 27.12)								
	U- Shape Drain	Cum	1	151.00	4.60	2.60	1805.96		
							1805.96		
	Deduct 40 % for Existing Drain section						-722.38		
					Net		**1083.58**		
	Considering 30% qty in Marshy soil						**325.07**		
					Total		**325.07**	**428.76**	**139379.00**

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Sl. No.	Description	Unit	No.	L	B	D	Qty	Rate in Rs.	Amount in Rs.
	Rate Analysis		**Rs./ Cum**						
	Basic Rate		Rs.	397.00					
	AW 8 %		Rs.	31.76					
	Total		**Rs.**	**428.76**					
6	KSSRB M2100-1.1 Earth work in Excavation for foundation of structures as per drawing and technical specifications, including setting out, construction of shoring and bracing, removal of stumps and other deleterious matter, dressing of sides and bottom and backfilling with approved material complete as per MORTH specification No.304 B. in **Ordinary soil upto 3m depth(By manual means)**								
	(PWD SR 15-16 Pg 209 item no 27.1)								
	Considering 70% qty in AKS						758.50		
	For Ground recharge pits		23	1.05	1.05	0.60	15.21		
					Total		773.71	125.28	96931.00
	Rate Analysis		**Rs./ Cum**						
	Basic Rate		Rs.	116.00					
	AW 8 %		Rs.	9.28					
	Total		**Rs.**	**125.28**					
7	Providing and **filling in foundation with Granite/trap broken metal** 100mm and down size, with approved sand including hand packing, ramming,watering, including cost of all materials and labour with all lead and lift.complete as per specifications								
	(PWD SR 15-16 Pg 6 & Item no 2.15)								
	U-Shape Drain		1	231.00	4.60	0.30	318.78		
	Recharge pit (Below Sand & Boulder Fill)		23	1.05	1.05	0.60	15.21		
	Recharge pit (Above Sand & Boulder Fill)		23	0.75	0.75	0.45	5.82		
	Deduct available qty @ 60% of item No.1						-220.80		
					Total		119.01	2133.78	253942.00
	Rate Analysis	**Rs./ Cum**							
	Basic Rate	Rs.	2013.00						
	AW 6 %	Rs.	120.78						
	Total	**Rs.**	**2133.78**						
8	KSRB 2.8 : Providing and **Filling in foundation with granite I trap broken metal 100mm** (available boulders obtained from dismantaling of masonary including charges for breaking into pieces) and down size, with approved sand including hand packing, ramming, watering, including cost of all materials and labour with all lead and lift. complete as per specifications.specification. No. KBS								

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Sl. No.	Description	Unit	No.	L	B	D	Qty	Rate in Rs.	Amount in Rs.
	(PWD SR 15-16 Pg 6 & Item no 2.15)								
	Qty @ 60% of item No.1	Cum					220.80		
						Total	220.80	1418.28	313157.00
	Rate Analysis	**Rs./Cum**							
	Basic Rate	Rs. 2013.00							
	Deduct for 100 mm and down size stone agreegates for available stone at site after dismantling of SSM (PWD - SR, 2015-16 : Page No.I,Sl	-675.00							
		1338.00							
	Add 6% AW	Rs. 80.28							
	Total	**Rs. 1418.28**							
9	KSRRB M2100-10 - **Plain Cement Concrete M10** with OPC cement @ 220 kgs, with crushed 40mm and down size graded metal coarse aggregates @0.84 Cum and fine aggregates @ 0.56Cum, in foundation mechanically mixed placed in foundation and compacted by vibration including curing for 14 days complete as per specifications MORTH Specification No.2100								
	(PWD SR 15-16 Pg 211 & Item no 27.18)								
	U-Shape Drain	Cum	1	231.00	4.60	0.15	159.39		
	Dedn for Recarge pits		23	0.75	0.75	0.15	1.94		
						Total	161.33	5805.00	936521.00
	Rate Analysis	**Rs./ Cum**							
	Basic Rate	Rs. 5375.00							
	AW 8 %	Rs. 430.00							
	Total	**Rs. 5805.00**							
10	KSRRB M 2100-17.2 : **Plain/reinforcement Cement Concrete design mix M25** with OPC cement @340 kgs, with 20mm and down size graded granite metal coarse aggregates @ 0.70Cum and fine aggregates @0.47Cum with superplastisiser @ 3lts confirming to IS9103-1999 Reaffirmed-2008, **open foundation** complete as per Drawing and Technical Specification with Batching plant, transit mixer and concrete pump. MORTH Specification No. 1500, 1700 & 2100.								
	(PW,P& IWTD, SR 15-16, P-212, I.No-27.31)								
	U-Shape Drain	Cum	1	231.00	4.30	0.35	347.66		
	Dedn for Recarge pits		23	0.75	0.75	0.30	3.88		
						Total	351.54	6237.00	2192555.00
	Rate Analysis	**Rs./ Cum**							
	Basic Rate	Rs. 5775.00							
	AW 8 %	Rs. 462.00							
	Total	**Rs. 6237.00**							
11	KSRRB M 2200-5.12 : **Design mix M25 sub structure** with OPC cement @340 kgs, with 20mm and down size graded granite metal coarse aggregates @0.7Cum and fine aggregates @0.47Cum with superplastisiser @3lts confirming to IS9103-1999 Reaffirmed-2008 upto 5 mtrs. Upto 5 Mtrs height.								
	(PW,P& IWTD, SR 15-16, P-216, I.No-28.7.12)								

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Sl. No.	Description	Unit	No.	L	B	D	Qty	Rate in Rs.	Amount in Rs.
	U-Shape Drain	Cum	1	231.00	(0.25+0.35)/2	1.80	124.74		
	Haunches	Cum	2	231.00	0.045		20.79		
		Cum			Total		145.53	7002.72	1019106.00
	Rate Analysis	**Rs./ Cum**							
	Basic Rate	Rs. 6484.00							
	AW 8 %	Rs. 518.72							
	Total	**Rs. 7002.72**							
12	KSRRB M2300-4.1 Furnishing and placing reinforced/ prestressed Cement Concrete in **Superstructure** as per drawing and Technical Specification complete as per specification RCC with OPC cement design mix M-25 @340kgs, with 20mm and down size graded granite metal coarse aggregates @0.7 cum and fine aggregates @ 0.47cum, with superplastisisers @3lts confirming to IS9103-1999 Reaffirmed-2008 height upto 5 mtrs with Batching Plant, Transite Mixer and Concrete Pump . MORTH specification No 1500, 1600 & 1700								
	Pg 223 item no 29.7.1								
		Cum	1	3.50	1.50	0.20	1.05		
		Cum			Total		1.05	7167.96	7527.00
	Rate Analysis	**Rs./ Cum**							
	Basic Rate	Rs. 6637.00							
	AW 8 %	Rs. 530.96							
	Total	**Rs. 7167.96**							
13	Supplying,fitting and placing **TMT bar reinforcement in sub-structure** complete as per drawing and technical specifications complete as per specifications. TMT Bars Fe 500								
	(PW,P& IWTD, SR 15-16, P-218, I.No-28.82)								
	Concrete Qty drain					497.07			
	Considering 90 Kg/ Cum for Culvert						44.74		
		MT			Total		44.74	53549.64	2395613.00
	Rate Analysis	**Rs./ MT**							
	Basic Rate	Rs. 49583.00							
	AW 8 %	Rs. 3966.64							
	Total	**Rs. 53549.64**							
14	Supplying,fitting and placing TMT bar reinforcement in super-structure complete as per drawing and technical specifications complete as per specifications. TMT Bars Fe 500								
	(PW,P& IWTD, SR 15-16, P-231, I.No-29.29)								
	Concrete Qty Culvert					1.05			
	Considering 100 Kg/ Cum for Culvert						0.12		
		MT			Total		0.12	54425.52	6287.00
	Rate Analysis	**Rs./ MT**							
	Basic Rate	Rs. 50394.00							
	AW 8 %	Rs. 4031.52							
	Total	**Rs. 54425.52**							

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Sl. No.	Description	Unit	No.	L	B	D	Qty	Rate in Rs.	Amount in Rs.
	PVC pipes 2.50kg/sqm 110mm outerdia								
	PWD SR-15-16, Pg XX & Sl no 586								
	Weep Holes @ 2 M c/c	Rmt	4	116.50	0.30		139.80	177.00	24745.00
	Rate Analysis	**Rs./ Rmt**							
	Basic Rate	Rs. 177.00							
	AW 8 %	Rs. --							
	Total	**Rs. 177.00**							
16	KSRRB M2200.9. Providing and laying of **Filter media with granular** materials/stone crushed aggregates satisfying the requirements laid down in clause 2500.4.2.2 of MORTH specifications to a thickness of not less than 600 mm with smaller size towards the soil and bigger size towards the wall and provided over the entire surface behind abutment, wing wall and return wall to the full height compacted to a firm condition complete as per drawing and Technical Specification complete as per specifications with all lead and lifts, etc., after breaking of clods complete as per specifications and as per direction of Engineer in-charge.page no 229/28.13								
	(PW,P& IWTD, SR 15-16, P-218, I.No-28.13)								
	Behind U shape drain walls	Cum	2	231.00	0.30	1.50	207.90		
					Total		207.90	1297.08	269663.00
	Rate Analysis	**Rs./ Cum**							
	Basic Rate	Rs. 1201.00							
	AW 8 %	Rs. 96.08							
	Total	**Rs. 1297.08**							
17	**Filling available excavated earth** (excluding rock) in sides of foundations upto plinth in layers not exceeding 20 cms. in depth, compacting each deposited layer by ramming after watering with lead upto 50 m. and lift upto 1.5 m. including cost of all labour complete as per specifications,.								
	(PW,P& IWTD, SR 15-16, P-6, I.No-2.10)								
	Behind U shape drain walls	Cum	2	231.00	0.30	1.50	207.90	127.20	26445.00
	Rate Analysis	**Rs./ Cum**							
	Basic Rate	Rs. 120.00							
	AW 6 %	Rs. 7.20							
	Total	**Rs. 127.20**							
18	KSRRB M100-1 Collecting, Conveying and disposal of surplus/excavated earth including Stone Boulder / Stone aggregates /Sand/ Kanker / Moorum **to designated dumping site** (10.0 kms) as directed by the engineer-in-charge .								
	(PW,P& IWTD, SR 15-16, P-133, I.No-17.1								
	Qty as in (item No.1+3+4+5+6-8-17)=	Cum			**Total**		1612.17	103.85	167428.00
	Rate Analysis	**Rs./ Cum**							
	Basic Rate	Rs. 68.00							
	Haulage for earth for 15 kms (1.28*2.2*15)	Rs. 28.16							
		Sub 96.16							
	AW 8 %	Rs. 7.69							
	Total	**Rs. 103.85**							

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Sl. No.	Description	Unit	No.	L	B	D	Qty	Rate in Rs.	Amount in Rs.
	KSRB 4-1.5 : Providing and laying in position plain **Cement concrete of mix M20** with OPC cement @ 300kgs, with 20mm and down size graded granite metal coarse aggregates @0.69cum and fine aggregtes @ 0.43cum, with superplastisiser @3lts confirming to IS9103-1999 Reaffirmed-2008, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation, plinth and cills, including cost of all materials, labour, HOM of machinery, curing complete as per specifications.Specification No. KBS 4.1,4.2								
	(PWD SR 15-16 Pg 12 item no 4.5)								
	Fencing footing @3 m Interval	Cum	100	0.45	0.45	0.60	12.15	5991.84	72801.00
	Rate Analysis	**Rs./ Cum**							
	Basic Rate	Rs. 5548.00							
	AW 8 %	Rs. 443.84							
	Total	**Rs. 5991.84**							
20	Supplying and fixing MS. Rectangular poles made out of 2 equal angles of 65x65~6m m welded together and fixed in CC (1 :2:4) WITH 2 NOS 16mm dia M.S. hold fast rods each of length 25 cms. Including cost of all materials cutting, bending scaffolding wherever necessary, nicely finishing the welded joints with all lead and lift and as per the directions of the Engineer-in-charge of the work and including providing 2 coats of approved quality paint over one coat of shop painting. (excluding cost of earth work and concrete)								
	(PWD SR 15-16 Pg 255 item no 37.2)								
	At 3m interval	Rmt	100		Total	3.00	300.00	991.44	297432.00
	Rate Analysis	**Rs./ Rmt**							
	Basic Rate	Rs. 918.00							
	AW 8 %	Rs. 73.44							
	Total	**Rs. 991.44**							
21	Providing and fixing **MS block pipe of 38mm dia** of heavy guage of 14 including removing the bends, cutting the pipes and fixing pipe in between the two vertical poles (M.S rectangular poles) and spot welding the chain link with M.S block pipe including cost of all materials wastage in cutting and scaffolding wherever necessary with all lead and lift as directed by the engineer in charge of work etc, complete including two coats of approved quality paint over one coat of shop paint								
	(PWD SR 15-16 Pg 255 item no 37.4)								
		Rmt	5x2	150.00	Total		1500.00	338.04	507060.00
	Rate Analysis	**Rs./ Rmt**							
	Basic Rate	Rs. 313.00							
	AW 8 %	Rs. 25.04							
	Total	**Rs. 338.04**							
22	Providing **chain link fencing** 50 mm size of 8 gauge properly stretched between rectangular poles and fixed with suitable bolts & nuts, the free ends shall be welded to the pole and block pipe at top and bottom as required including cost of all materials, labour, lead and lifts and as per the directions of Engineer-in-charge of work including two coats of approved quality paint over one coat of shop paint.								
	(PW,P& IWTD,SR 15-16, P-255, I.No-37.3)								
		Sqm	2	150.00	Total	2.50	750.00	697.68	523260.00

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Sl. No.	Description	Unit	No.	L	B	D	Qty	Rate in Rs.	Amount in Rs.
	Rate Analysis	**Rs./ Sqm**							
	Basic Rate	Rs. 646.00							
	AW 8 %	Rs. 51.68							
	Total	**Rs. 697.68**							
23	Providing and **fixing 50mm diameter and 750mm long perforated GI pressure relief pipe** with one end closed by perforated GL plate and other end provided with alluminium lid hinged to pipe including cost of all materials,labour, drilling 8mm dia holes etc., complete with **all leads and lifts.**								
	(WRD SR 14-15, P-60, WRD: 3.41)								
		Nos	1	15.00			**15.00**	**407.00**	**6105.00**
	Rate Analysis	**Rs./ Sqm**							
	Basic Rate	Rs. 407.00							
	Total	**Rs. 407.00**							
24	WRD: Providing and fixing 20mm thick 150mm depth tarfelt expasion joint filler board for cement concrete lining of canal including cost of all materils, labour etc,. Complrtr with all leads and lifts								
	(WRD SR 14-15, P-60, WRD: 3.41)								
		Rmt	15	7.90		2	**237.00**	**123.00**	**29151.00**
	Rate Analysis	**Rs./ Sqm**							
	Basic Rate	Rs. 123.00							
	Total	**Rs. 123.00**							
						Sub Total			**9708104.00**
	Add 3.00 % for preparation of DPR, PMC & Quality control							Rs.	291243.00
	Utility shifting, miselleneous, Unforeseen charges and rounding off							Rs.	653.00
	GRAND TOTAL							Rs.	10000000.00

CERTIFICATE :

1. Certified that above mentioned work is included in the detailed project report
2. The area comes under BBMP limits.
3. The provisions made in the estimates are adequate and necessary.
4. This Estimate is prepared based on the SR of 2015-2016 of PWD circle Bengaluru and WRD SR for 2014-15

AE, SWD, BBMP, Dasarahalli Division, Bengaluru	AEE, SWD, BBMP, Dasarahalli Division, Bengaluru	EE, SWD, BBMP, Dasarahalli Division, Bengaluru

Administrative sanction for Rs. 100.00 lakhs
(Rs. One hundred lakhs only)
is accorded under head
Registered as CE No. 102/16-17 & Subject to conditions contained in enclosed memo No. 102/16-17/8 - 8 Dt. 23/8/16

AE/JE TA SE (S) CE (S)

Technically sanctioned for Rs. 100.00 lakhs
Rs. One hundred lakhs only
under
Registered as CE No. 104/16-17 & Subject to conditions contained in enclosed memo No. 104/16-17/7 - 7 Dt. 23/8/16

AE/JE TA SE (S) CE (S)

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